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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/086,806	03/04/2002	Saeko Kurachi	111204	1604
25944	7590	02/25/2004	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			ILDEBRANDO, CHRISTINA A	
			ART UNIT	PAPER NUMBER
			1725	

DATE MAILED: 02/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

Office Action Summary

Application No. 10/086,806	Applicant(s) KURACHI, SAEKO	
Examiner Christina Ildebrando	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) 24-40 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, claims 1-8, 11-19 and 22-23, with respect to the restriction between Groups I and II, II and III, and I and III is acknowledged. Applicant's arguments are persuasive and the restriction requirement between these claims are withdrawn. Therefore, the elected Group I now includes claims 1-23.
2. Applicant's election without traverse of Group I (now claims 1-23) with respect to the claims of Group IV (claims 24-40) is acknowledged.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 6-8, 11-12, 17-19, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Szabo et al.

Szabo et al. (US 6,136,289) discloses a catalyst composition useful in hydrocarbon conversion processes. The catalyst composition comprises a ferrierite zeolite loaded with platinum (column 2, lines 10-60 and the Examples). With respect to claims 11-12, the ferrierite zeolite taught by the reference would necessarily have a pore size within the claimed range and is an example of a solid acid carrier.

With respect to claim 1, the "consisting essentially of" language in the claims is noted. The term limits the claim to the specified ingredients and those that do not affect the basic and novel characteristics of a composition. *Ex parte Davis et al.*, 80 USPQ 448. When applicant contends that modifying or additional components in the reference composition are excluded by the recitation "consisting essentially of," applicant has the burden of showing the basic and novel characteristics of the claimed composition, i.e. a showing that the introduction of these components would materially change the characteristics of applicant's composition. *In re De Lajarte*, 143 USPQ 256.

The process of making limitations in claims 6-8 and 17-19 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

The intended use limitations recited throughout the claims are noted by the examiner. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims.

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Szabo et al.

5. Claims 1, 6-9, 11-12, 17-20, and 22-23 are rejected under 35 U.S.C. 102(b) as being anticipated by Andorf et al.

Andorf et al. (US 5,955,395) discloses a catalyst composition useful in the selective of carbon monoxide. The catalyst composition comprises platinum metal supported on a zeolite carrier (column 2, lines 5-33). Suitable zeolites include ZSM-5 (Figure 2, column 3, lines 20-25, and column 4, lines 18-30). With respect to claims 11-12, the ZSM-5 zeolite taught by the reference would necessarily have a pore size within the claimed range and is an example of a solid acid carrier.

With respect to claim 1, the "consisting essentially of" language in the claims is noted. The term limits the claim to the specified ingredients and those that do not affect the basic and novel characteristics of a composition. *Ex parte Davis et al.*, 80 USPQ 448. When applicant contends that modifying or additional components in the reference composition are excluded by the recitation "consisting essentially of," applicant has the burden of showing the basic and novel characteristics of the claimed composition, i.e. a showing that the introduction of these components would materially change the characteristics of applicant's composition. *In re De Lajarte*, 143 USPQ 256.

The process of making limitations in claims 6-8 and 17-19 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

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With respect to catalyst claims 1, 6-8, 11-12, 17-19, and 22-23, the intended use limitations recited throughout the claims are noted by the examiner. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims.

With respect to claims 9 and 20, the reference teaches that the catalyst composition may be employed in a reactor for the selective oxidation of carbon monoxide from hydrogen-rich feeds originating from a methanol reforming reactor (column 2, lines 5-10 and column 3, lines 54-68). It is taught that the catalyst is useful in producing outlet streams which are very low in CO and suitable for use in a fuel cell (columns 2-3).

As each and every element of the claimed invention is taught in the prior art as recited above, the claims are anticipated by Andorf et al.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1, 6-10, 11-12, 17-21, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 833 401 in view of EP 0 833 401.

EP 0 833 401 discloses an apparatus for reducing carbon monoxide. With reference to Figure 1, the EP reference teaches a reforming reactor in combination with a CO selective oxidizing unit. The effluent from the oxidizing unit is then passed to a fuel cell, which receives supplies of the gaseous fuel produced by the fuel reformer (and containing reduced amounts of CO) and an oxygen containing oxidizing gas and generates an electromotive force through electrochemical reactions (Figure 1 and page 9, lines 20-30). The EP reference teaches that suitable CO selective oxidation catalysts include platinum metal on a support such as zeolite (column 39, lines 25-40).

The difference between the reference and the claims is that the reference does not disclose the specific zeolite claimed, i.e. ZSM-5 or ferrierite.

Andorf et al. (US 5,955,395) discloses a catalyst composition useful in the selective of carbon monoxide. The catalyst composition comprises platinum metal supported on a zeolite carrier (column 2, lines 5-33). Suitable zeolites include ZSM-5 (Figure 2, column 3, lines 20-25, and column 4, lines 18-30). With respect to claims 11-12, the ZSM-5 zeolite taught by the reference would necessarily have a pore size within the claimed range and is an example of a solid acid carrier. The reference teaches that the catalyst composition may be employed in a reactor for the selective oxidation of carbon monoxide from hydrogen-rich feeds originating from a methanol reforming reactor (column 2, lines 5-10 and column 3, lines 54-68). It is taught that the catalyst is

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useful in producing outlet streams which are very low in CO and suitable for use in a fuel cell (columns 2-3).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the EP reference to include the use of the catalyst composition taught by Andorf et al. in the reactor and fuel cell in light of the teaching by Andorf et al. that the catalyst is useful for selective CO oxidation. One would have been motivated to do so in light of the specific teaching by Andorf et al. that the catalyst may be used in a CO selective oxidation reactor coupled with a reformer for the specific purpose of reducing CO concentrations prior to passing the effluent to a fuel cell.

Claim Rejections - 35 USC § 102/103

8. Claims 1-8, 11-19, and 22-23 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over JP 6-198192.

JP 6-198192 discloses a catalyst composition comprising ZSM-5 zeolite containing both iron and platinum (Abstract). With respect to claims 11-12, the ZSM-5 zeolite taught by the reference would necessarily have a pore size within the claimed range and is an example of a solid acid carrier.

With respect to claim 1, the "consisting essentially of" language in the claims is noted. The term limits the claim to the specified ingredients and those that do not affect the basic and novel characteristics of a composition. *Ex parte Davis et al.*, 80 USPQ 448. When applicant contends that modifying or additional components in the reference composition are excluded by the recitation "consisting essentially of," applicant has the

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burden of showing the basic and novel characteristics of the claimed composition, i.e. a showing that the introduction of these components would materially change the characteristics of applicant's composition. *In re De Lajarte*, 143 USPQ 256.

The intended use limitations recited throughout the claims are noted by the examiner. While intended use recitations cannot entirely be disregarded, in composition and article claims, the intended use must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention over the prior art. *In re Casey*, 370 USPQ 235 and *In re Otto*, 312 USPQ 458. It is the position of the examiner that the prior art structure is capable of performing the intended use and therefore meets the instant claims.

The process of making limitations in claims 3-8 and 14-19 are noted. However, when the examiner has found a substantially similar product as in the applied prior art, the burden of proof is shifted to applicant to establish that their product is patentably distinct and not the examiner to show the same process of making. *In re Brown*, 173 USPQ 685 and *In re Fessmann*, 180 USPQ 324.

Alternatively, with respect to the molar ratios of Fe and Pt employed in the preparation of the catalyst, if the prior art does not in fact anticipate the instant claims, then the claims would have been obvious to one of ordinary skill in the art. *Ex parte Lee*, 31 USPQ 2d. 1105. In this case, the JP reference teaches values for [Fe] and [Pt] which would result in ratios which would overlap and encompass the ranges instantly claimed. Refer to [0015] and [0018]. With respect to the encompassing and overlapping ranges previously discussed, the subject matter as a whole would have been obvious to one of

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ordinary skill in the art at the time of invention to select the portion of the prior art's range which is within the range of the applicants' claims because it has been held prima facie case of obviousness to select a value in a known range by optimization for the results. *In re Boesch*, 205 USPQ 215. Additionally, the subject matter as a whole would have been obvious to one of ordinary skill in the art at the time invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness. *In re Malagari*, 182 USPQ.

Conclusion

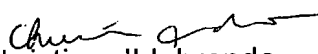
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christina Ildebrando whose telephone number is (571) 272-1176. The examiner can normally be reached on Monday-Friday, 7:30-5, with Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Christina Ildebrando
Patent Examiner
Art Unit 1725
2/19/04

CAI
February 19, 2004